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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/670,774

09/26/2003

Hideo Yoshida

402802/SOEI

4337

23548

7590

10/04/2004

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EXAMINER

PERKEY, WILLIAM B

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

*Supplemental*  
**Notice of Allowability**

Application No.

10/670,774

Examiner

William B. Perkey

Applicant(s)

YOSHIDA, HIDEO

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed 09-08-04.
2. ☒ The allowed claim(s) is/are 1-6.
3. ☒ The drawings filed on 26 September 2003 and 30 December 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**


1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

*W B Perkey*

William B. Perkey  
Primary Examiner  
Art Unit: 2851

# EXAMINERS Amendment

In re Appln. of Hideo YOSHIDA  
Application No. 10/670,774

  
1. (Currently Amended) A rangefinder apparatus comprising:  
autofocus (AF) data generating means for forming an image of light from an object to be subjected to rangefinding onto a pair of line sensors, each line sensor including a plurality of light-detecting elements, and generating AF data for computing a correlation value according to signals obtained from the light-detecting elements;

AF data acquiring means for acquiring the AF data from a pair of employed sensor areas used for rangefinding in the pair of line sensors;

correlation value computing means for determining a pair of window areas for selecting the AF data to be used for computing a correlation value within the pair of employed sensor areas, and successively computing correlation values while shifting the pair of window areas;

object distance calculating means for detecting a shift amount of the window areas yielding highest correlation according to the correlation values computed by the correlation value computing means and calculating distance to the object according to the shift amount yielding the highest correlation; and

rangefinding incapability determining means for calculating an index value indicative of degree of oscillation of the AF data in predetermined areas of the pair of line sensors, and determining, ~~according to the index value, whether~~ that the rangefinder apparatus is incapable of rangefinding is incapable when the index value is larger than a reference value.

2. (Previously Presented) The rangefinder apparatus according to claim 1, wherein the rangefinding incapability determining means

samples AF data at a predetermined interval in a predetermined area of each line sensor, and adds respective absolute values of the differences between couples of AF data sampled at the sampling points adjacent to each other to calculate a contrast integration value for each line sensor;

subtracts the absolute minimum value of the AF data in the predetermined area of each line sensor from the absolute maximum value of the AF data in the predetermined area of each line sensor to calculate maximum contrast gap; and

calculates a ratio between the sum of the contrast integration values for respective predetermined areas and the sum of the maximum contrast gaps for respective predetermined areas as the index value.

# EXAMINERS AMENDMENT

In re Appln. of Hideo YOSHIDA  
Application No. 10/670,774

09-28-04 *QMBP* -1- 1. 3. (Original) A camera comprising the rangefinder apparatus according to claim.

9-28-04 *QMBP* -2- 2. 4. (Original) A camera comprising the rangefinder apparatus according to claim

5. (New) A rangefinder apparatus comprising:

autofocus (AF) data generating means for forming an image of light from an object to be subjected to rangefinding onto a pair of line sensors, each line sensor including a plurality of light-detecting elements, and generating AF data for computing a correlation value according to signals obtained from the light-detecting elements;

AF data acquiring means for acquiring the AF data from a pair of employed sensor areas used for rangefinding in the pair of line sensors;

correlation value computing means for determining a pair of window areas for selecting the AF data to be used for computing a correlation value within the pair of employed sensor areas, and successively computing correlation values while shifting the pair of window areas;

object distance calculating means for detecting a shift amount of the window areas yielding highest correlation according to the correlation values computed by the correlation value computing means and calculating distance to the object according to the shift amount yielding the highest correlation; and

rangefinding incapability determining means for calculating an index value indicative of degree of oscillation of the AF data in predetermined areas of the pair of line sensors, and determining, according to the index value, whether rangefinding is possible, wherein the rangefinding incapability determining means

samples AF data at a predetermined interval in a predetermined area of each line sensor, and adds respective absolute values of the differences between couples of AF data sampled at the sampling points adjacent to each other to calculate a contrast integration value for each line sensor;

subtracts the absolute minimum value of the AF data in the predetermined area of each line sensor from the absolute maximum value of the AF data in the predetermined area of each line sensor to calculate maximum contrast gap; and

calculates a ratio between the sum of the contrast integration values for respective predetermined areas and the sum of the maximum contrast gaps for respective predetermined areas as the index value.

# EXAMINER'S AMENDMENT

In re Appln. of Hideo YOSHIDA  
Application No. 10/670,774

6. (New) A camera comprising the rangefinder apparatus according to claim 5.